
BLIND STUDENTS STUDY COGNITION VIA SOUND USING AUDIO BATTLESHIP

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ABSTRACT

Recent research suggests that sound may be utilized to help blind youngsters improve their cognitive abilities. The concept, development, and usability testing of Audio BattleShip, a sound-based interactive environment for blind children, are presented in this article. Audio BattleShip is an interactive version of the classic board game Battleship, with distinct interfaces for both sighted and blind players. As a means of navigating and exploring the world, the interface relies on spatialized sound. The program was built on a framework that enables the creation of distributed heterogeneous applications by synchronizing just some common elements, allowing for the rapid creation of interactive applications with a wide range of interfaces. The game can help develop and rehearse abstract memory through spatial reference, spatial abstraction through concrete representations, haptic perception through constructing mental images of the virtual space, and cognitive integration of both spatial and haptic references, according to usability testing of Audio BattleShip for cognitive development in blind children.

KEYWORDS: *Blindness, Blind Study, Children, Cognitive Development, Prototypes*

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